



# TS300R THRU T S3010R

FAST SWITCHING PLASTIC RECTIFIER

VOLTAGE - 50 to 1000 Volts CURRENT - 3.0 Amperes

## FEATURES

- High surge current capability
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 utilizing Flame Retardant Epoxy Molding Compound
- Void-free Plastic in DO-201AD package
- 3 ampere operation at  $T_A=55^\circ\text{C}$  with no thermal runaway
- Exceeds environmental standards of MIL-S-19500/228
- Fast switching for high efficiency

## MECHANICAL DATA

Case: Molded plastic, DO-201AD

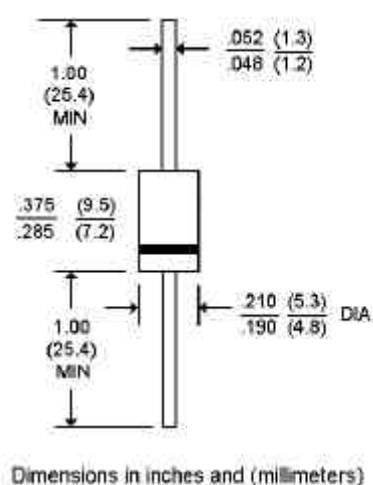
Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Band denotes cathode

Mounting Position: Any

Weight: 0.04 ounce, 1.1 gram

## DO-201AD



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	TS300R	TS301R	TS302R	TS304R	TS306R	TS308R	TS3010R	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length at $T_A=55^\circ\text{C}$	3.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	200							A
Maximum Forward Voltage at 3.0A	1.3							V
Maximum Reverse Current $T_J=25^\circ\text{C}$	5.0							$\mu\text{gA}$
at Rated DC Blocking Voltage $T_J=100^\circ\text{C}$	500							$\mu\text{gA}$
Maximum Reverse Recovery Time(Note 1)	150	150	150	150	250	500	500	ns
Typical Junction capacitance (Note 2) C <sub>J</sub>	60							pF
Typical Thermal Resistance (Note 3) R $\theta$ KJA	22							$^\circ\text{C/W}$
Operating and Storage Temperature Range	-55 TO +150							$^\circ\text{C}$

## NOTES:

- Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $t=0.25\text{A}$
- Measured at 1 MHz and applied reverse voltage of 4.0 VDC
- Thermal Resistance from Junction to Ambient and from junction to lead at 0.375"(9.5mm) lead length with both leads equally heatsink.

RATING AND CHARACTERISTIC CURVES  
TS300R THRU TS3010R

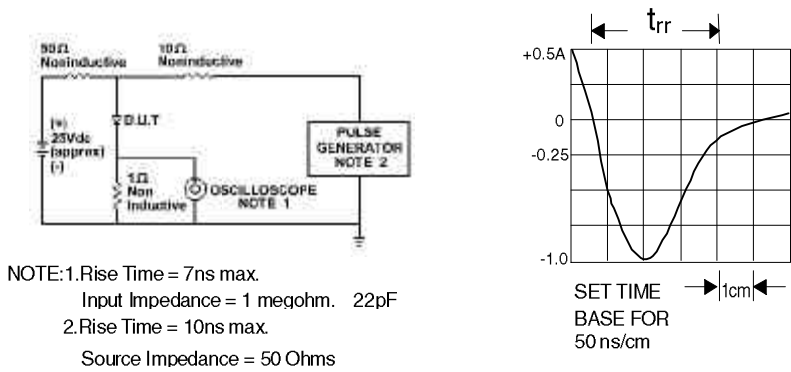


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

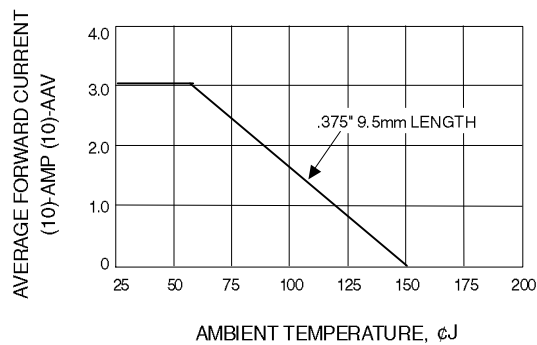


Fig. 2-FORWARD CURRENT DERATING CURVE

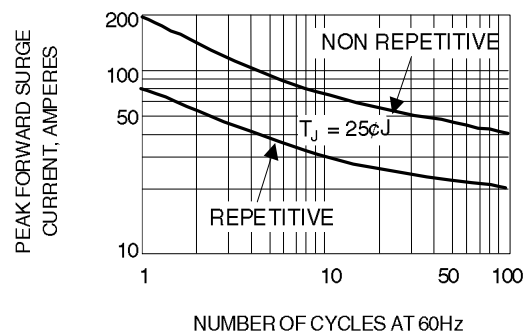


Fig. 3-PEAK FORWARD SURGE CURRENT

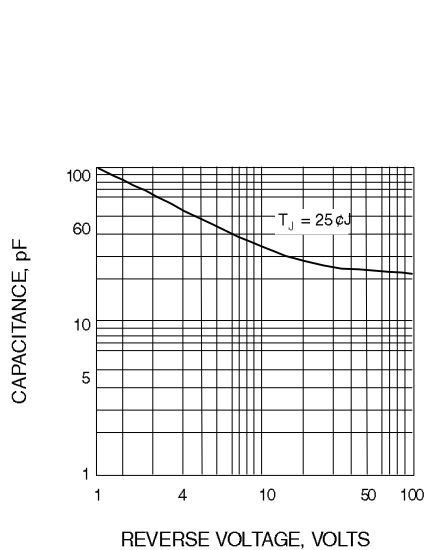


Fig. 4-TYPICAL JUNCTION CAPACITANCE

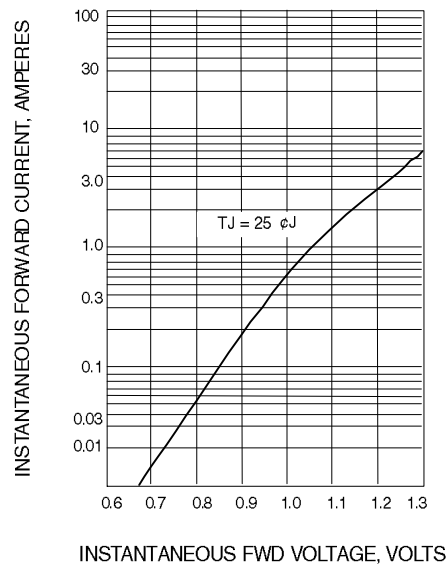


Fig. 5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS